

Volume 525
May 10, 1988

NEURAL MECHANISMS AND BIOLOGICAL SIGNIFICANCE OF GROOMING BEHAVIOR^a

Editors and Conference Organizers

DEBORAH L. COLBERN and WILLEM H. GISPEN

CONTENTS

Preface. By DEBORAH L. COLBERN and WILLEM H. GISPEN	ix
---	----

Part I. Ethological and Comparative Aspects of Grooming Behaviors

The Development of Grooming and Its Expression in Adult Animals. By BENJAMIN D. SACHS	1
Expressive Contexts, Fine Structure, and Central Mediation of Rodent Grooming. By JOHN C. FENTRESS	18
Body Temperature and Grooming in the Mongolian Gerbil. By DELBERT D. THIESSEN	27
Preening and Associated Comfort Behavior in Birds. By JUAN D. DELIUS ..	40
Biological Influences on Grooming in Nonhuman Primates. By ROBERT W. GOY, GARY KRAEMER, and DAVID GOLDFOOT	56

Part II. Development and Environmental Manipulation of Grooming Behaviors

Comparison of Adaptive Responses in Familiar and Novel Environments: Modulatory Factors. By SANDRA E. FILE, PETER S. MABBUTT, and JACQUELINE H. WALKER	69
Effect of Perinatal Exposure to Therapeutic Doses of Chlorimipramine on Grooming Behavior in the Adult Rat. By E. L. RODRÍGUEZ ECHANDÍA, M. R. FÓSCOLO, and A. GONZALEZ	80
An Ethological Analysis of Excessive Grooming in Young and Aged Rats. By BERRY M. SPRUIT, PHILIP WELBERGEN, JAN BRAKKEE, and WILLEM HENDRIK GISPEN	89
Analysis of Age-related Changes in Stress-induced Grooming in the Rat: Differential Behavioral Profile of Adaptation to Stress. By HIDEKI KAMETANI	101

^a This volume is the result of a conference entitled Neural Mechanisms and Biological Significance of Grooming Behavior, which was held by the New York Academy of Sciences on October 15-17, 1986, in New York, NY.

Part III. Peptide-induced Grooming: Pro-opiomelanocortin Peptides

Cross-Species Comparison of the ACTH-induced Behavioral Syndrome. By A. BERTOLINI, ROSANNA POGGIOLI, and A. VALERIA VERGONI	114
Structure-Activity Studies on the Neuroactive and Neurotropic Effects of Neuropeptides Related to ACTH. By D. DE WIED and G. WOLTERINK	130
Transmembrane Signal Transduction and ACTH-induced Excessive Grooming in the Rat. By WILLEM HENDRIK GISPEN	141
Studies on the Neurochemical Mechanisms and Significance of ACTH-induced Grooming. By ADRIAN J. DUNN	150
Influence of ACTH ₁₋₂₄ on Grooming and Sociosexual Behavior in the Rat. By BENGT J. MEYERSON, URBAN HÖGLUND, and BERRY SPRUIJT	169
ACTH-induced Grooming Behaviors and Body Temperature: Temporal Effects of Neurotensin, Naloxone, and Haloperidol. By DEBORAH L. COLBERN and DENNIS A. TWOMBLY	180

Part IV. Peptide-induced Grooming and Related Behaviors: Other Peptides

Bombesin and Ceruletide-induced Grooming and Inhibition of Ingestion in the Rat. By PAUL J. KULKOSKY	201
Comparison of Bombesin-, ACTH-, and β -Endorphin-induced Grooming: Antagonism by Haloperidol, Naloxone and Neurotensin. By T. B. VAN WIMERSMA GREIDANUS, F. VAN DE BRUG, L. M. DE BRUIJCKERE, P. H. M. A. PABST, R. W. RUESINK, R. L. E. HULSHOF, B. N. M. VAN BERCKEL, S. M. ARISSSEN, E. J. P. DE KONING, and D. K. DONKER	219
Pharmacological Studies of Grooming and Scratching Behavior Elicited by Spinal Substance P and Excitatory Amino Acids. By GEORGE L. WILCOX	228
The Role of Prolactin in Rat Grooming Behavior. By FILIPPO DRAGO	237
Grooming Behavioral Effects of Oxytocin: Pharmacology, Ontogeny, and Comparisons with Other Nonapeptides. By CORT A. PEDERSEN, JACK D. CALDWELL, FILIPPO DRAGO, LINDA R. NOONAN, GARY PETERSON, LORI E. HOOD, and ARTHUR J. PRANGE, JR.	245
Vasopressin-induced Grooming and Scratching Behavior in Mice. By GERHARD MEISENBERG	257

Part V. Pharmacological Modulation of Grooming Behaviors

Actions of Psychoactive Drugs on ACTH- and Novelty-induced Behavior in the Rat. By JÖRG TRABER, DAVID G. SPENCER, JR., THOMAS GLASER, and WILLEM HENDRIK GISPEN	270
The Effects of Anxiolytics and Other Agents on Rat Grooming Behavior. By T. W. MOODY, Z. MERALI, and J. N. CRAWLEY	281
Role of Opioid Receptors in Bombesin-induced Grooming. By DEBRA E. GMEREK and A. COWAN	291
Grooming Reflexes in the Cat: Endocrine and Pharmacological Studies. By WALTER RANDALL	301
Excessive Grooming in Response to Opiate Drugs: The Ontogeny of Responsiveness. By ROBERT L. ISAACSON	321

Yawning and Penile Erection: Central Dopamine-Oxytocin-Adrenocorticotropin Connection. By ANTONIO ARGIOLAS, MARIA R. MELIS, and GIAN L. GESSA	330
---	-----

**Part VI. Neurochemical Systems, Anatomical Substrates
& Electrophysiological Correlates of Grooming Behaviors**

Role of Central Dopamine in ACTH-induced Grooming Behavior in Rats. By ALEXANDER R. COOLS, BERRY M. SPRUIT, and BART A. ELLENBROEK	338
Brainstem Systems and Grooming Behaviors. By GARY G. BERNTSON, JAYE F. JANG, and APRIL E. RONCA	350
Differential Thermosensor Control of Thermoregulatory Grooming, Locomotion, and Relaxed Postural Extension. By WARREN W. ROBERTS ..	363
Behavioral and Electrophysiological Effects of Intracranially Applied Neuropeptides with Special Attention to DC Slow Potential Changes. By J. P. HUSTON and M.-S. HOLZHÄUER	375

Poster Papers

Excessive Grooming Behavior in Rats and Mice Induced by Corticotropin-releasing Factor. By ADRIAN J. DUNN, CRAIG W. BERRIDGE, YEN I. LAI, TAMMY L. YACHABACH, and SANDRA E. FILE	391
Location of the Ventricular Site of ACTH Action to Elicit Grooming Behavior. By ADRIAN J. DUNN and RUSSELL W. HURD	394
Postcopulatory Grooming in Male Rats Prevents Sexually Transmitted Diseases. By BENJAMIN L. HART, ELIZABETH K. KORINEK, and PATRICIA L. BRENNAN	397
Autogrooming and Social Grooming in Impala. By LYNETTE A. HART and BENJAMIN L. HART	399
Estrogen Influences on Pregnancy-induced Autogrooming in Mice. By PAMELA J. HARVEY and MARTHA A. MANN	403
Regulation of the Seasonal Changes in Grooming Reflexes by Social Cycles. By RALPH JOHNSON and WALTER RANDALL	407
Kassinin and Xenopsin: Effects upon Grooming in the Mouse. By R. J. KATZ	411
The Grooming Pattern in Bonnet Macaque, <i>Macaca radiata</i> (E. Geoffroy). By G. U. KURUP	414
Pawgrooming Induced by Intermittent Positive Reinforcement in Rats. By CINDY P. LAWLER and PERRIN S. COHEN	417
Selective Enhancement of Grooming Behavior by the D-1 Agonist SKF 38393 in Rats following the Destruction of Serotonin Neurons. By IRWIN LUCKI and ROBERT F. KUCHARIK	420
Role of the Cholinergic System(s) in the Expression of the Behavioral Effects of Bombesin. By Z. MERALI, C. KATEB, and P. KATEB	423
Maternal and Self-Grooming in Norway Rats: Mechanisms and Consequences of Dissociable Components. By CELIA L. MOORE	425
Selective Association of Grooming Acts and Penile Reflexes in Rats. By BENJAMIN D. SACHS and ANTHONY G. MOLLOY	428

The Functional Significance of Baboon Grooming Behavior. <i>By</i> CAROL D. SAUNDERS and GLENN HAUSFATER	430
Effects of Lidocaine or Capsaicin on Scratching and Grooming Induced in Mice by Centrally or Peripherally Injected Bombesin. <i>By</i> H. WHEELER, T. P. BLACKBURN, N. J. W. RUSSELL, and A. COWAN	433
Effect of Adrenocorticotrophic Hormone (4-9) Analogue Org 2766 on Preening Behavior of Domestic Chickens. <i>By</i> SANDRA WILLIAMS and MAUREEN BESSETTE	435
Index of Contributors	437

Financial assistance was received from:

- ABBOTT LABORATORIES
- BAYER/AG MILES
- FIDIA RESEARCH LABORATORIES
- NATIONAL SCIENCE FOUNDATION
- RUDOLF MAGNUS INSTITUTE FOR PHARMACOLOGY STUDY FUND
- SANDOZ, INC.
- SCHERING-PLOUGH CORP.
- SEARLE RESEARCH AND DEVELOPMENT/DIVISION OF G. D. SEARLE & CO.
- UNIVERSITY OF UTRECHT

The New York Academy of Sciences believes that it has a responsibility to provide an open forum for discussion of scientific questions. The positions taken by the participants in the reported conferences are their own and not necessarily those of the Academy. The Academy has no intent to influence legislation by providing such forums.

